

REMARKS

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-17 are in this Application. Claims 3, 12 and 13 have been objected to. Claims 1 and 10 have been rejected under 35 U.S.C. § 112 second paragraph. Claims 6-9 have been rejected under 35 U.S.C. § 102. Claims 2, 4, 5, 11 and 14 to 17 have been cancelled in a previous response. Claims 1, 6 and 10 have been amended herewith.

35 U.S.C. § 112, Second Paragraph Rejections

The Examiner has rejected claims 1 and 10 for failing to particularly point out and distinctly claim the subject matter. The Examiner's rejections are respectfully traversed. Claims 1 and 10 have now been amended.

The Examiner notes that the term "treating...plants with a mobile DNA sequence" is unclear, and that the term "mobile DNA" is not clearly defined in the specification. Applicant disagrees.

Applicant wishes to point out that the term "mobile DNA", in the context of plant genetics, is understood by one of ordinary skill in the art to mean a DNA sequence which is capable of insertion into more than one position in the genome of a plant. Further, examples of "mobile DNA" are provided in the specification:

"Any mutagenesis technique can be used to obtain miniature cultivars according to the invention including, but not being limited to, chemical treatment, irradiation, or by DNA insertion of T-DNA or transposons from the host plant or from a heterologous origin, using techniques well known to the skilled artisan in this field."(page 11, lines 23-26); and "Insertional inactivation of genes with a mobile DNA sequence may be undertaken. The mobile DNA sequence may be a T-DNA or a transposon."(page 12, lines 1-2)

The abovementioned notwithstanding, and in order to further define the claimed invention, and to expedite prosecution in this case, the Applicants have chosen to amend independent claims 1, 6 and 10 to recite the step of:

(b) generating mutant plants in said miniature plant population by inducing mutagenesis of said miniature plants via at least one of a T-DNA and a transposon sequence to

produce said mutant population of said miniature crop plant cultivar."

Support for such an amendment can be found throughout the instant specification, for example, page 11, lines 23-26, and page 12, lines 1 and 2. Support for "inducing mutagenesis" is found throughout the instant specification, for example, page 4, lines 30-32.

Thus, independent claims 1, 6 and 10, and all claims dependent therefrom are now clearly defined as to the metes and bounds of the claimed inventions. In view of the above arguments, Applicant believes to have overcome 35 U.S.C. § 112, second paragraph, rejections.

35 U.S.C. § 102 and 103(a), Rejections

The Examiner has rejected Claims 6-9 as being anticipated by (102), or, alternatively, as obvious (103(a) over Scott et al (1984, HortScience 19: 874-76), Bishop et al. (1996, Plant Cell 8:959-69) and Scott et al (1995 HortScience 30:643-44).

The Examiner's rejections are respectfully traversed. Claim 6 has been amended.

The Examiner states that Scott et al (1984), Bishop et al (1996) and Scott et al (1995) all teach tomato plants having the characteristics of the mutant miniature plants taught in independent claim 6. Applicant disagrees.

Scott et al (1984) is a research publication reporting on investigation of the influence of pollination treatments on fruit set and development in parthenocarpic tomato, in which the miniature tomato cultivars "Tiny Tim" and "Micro-Tom" are mentioned. However, Scott et al. does not teach induction of mutagenesis in the cultivars, and is silent regarding the use of mobile DNA elements such as T-DNA and transposons.

Claim 6 includes the limitation of mutated miniature plants carrying a mutation induced by inducing mutagenesis via at least one of a T-DNA and a transposon sequence. Thus, Scott et al. lacks an essential feature of the instant invention, and does not, and cannot anticipate, does not motivate to, and cannot render obvious the mutated miniature plants of claim 6.

Bishop et al is a research publication reporting the isolation, cloning and sequencing of the tomato Dwarf (D) gene. In the cited reference (page 959, column 1,

lines 12-18) the authors relate the history of the dwarf tomato varieties Tiny Tim, Tom Thumb, Dwarf Stone and others, and summarize some of the genetic linkage data that had been elucidated for the different Dwarf alleles. However, Bishop et al. do not teach induction of mutagenesis in the cultivars, and are silent regarding the use of mobile DNA elements such as T-DNA and transposons for induced mutagenesis.

Claim 6 includes the limitation of mutated miniature plants carrying a mutation induced by inducing mutagenesis via at least one of a T-DNA and a transposon sequence. Thus, Bishop et al. lacks an essential feature of the instant invention, and does not, and cannot anticipate, does not motivate to, and cannot render obvious the mutated miniature plants of claim 6.

Scott et al (1995) is a research publication reporting the successful breeding of "Micro Gold"(L. esculentum Mill), a miniature dwarf tomato with gold colored fruit. Scott et al report that the Micro Gold tomato cultivar was developed using conventional breeding techniques, crosses and selection. Scott et al. do not teach induction of mutagenesis in the cultivars, and are silent regarding the use of mobile DNA elements such as T-DNA and transposons for induced mutagenesis.

Claim 6 includes the limitation of mutated miniature plants carrying a mutation induced by inducing mutagenesis via at least one of a T-DNA and a transposon sequence. Thus, Scott et al. lacks an essential feature of the instant invention, and does not, and cannot anticipate, does not motivate to, and cannot render obvious the mutated miniature plants of claim 6.

Applicant is of the strong belief that the mutant miniature tomato plants taught in claims 6 to 9, carrying a mutation or mutations caused by induced mutagenesis are clearly distinguished from the conventionally produced tomato cultivars disclosed by Scott et al (1984), Bishop et al. and Scott et al (1995). Further, one of ordinary skills, in possession of Scott et al (1984), Bishop et al and Scott et al (1995), would not be able to make and use the instant invention with a reasonable expectation of success.

In view of the above amendments and remarks it is respectfully submitted that claims 1, 6 and 10, and all claims dependent therefrom are now in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, reading "Martin D. Moynihan".

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